London Stock Exchange Derivatives Market

TRADING SERVICES DESCRIPTION

Version 5.5

14 September 2015

London Stock Exchange Group

LSEDM TRADING SERVICES DESCRIPTION

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Document history

Issue	Date	Description
5.5	14 September 2015	Introduction of BIST 30 index futures and options
5.4	1 July 2015	Update to Appendix B (Price controls for Norwegian futures contracts)
5.3	1 May 2015	Minor updates reflecting Rulebook changes effective 1 May 2015
5.2	13 April 2015	Change to Norwegian derivatives strike price generation table
5.1	30 March 2015	Updated Block trade parameters for UK Stock Options in Appendix B – Controls.
5.0	6 March 2015	Updated Trading Services Description for the upgrade of the LSEDM trading platform to SOLA 7.0. Added sections for Strategies, Tailor-made (Flex) series creation and promotion to Standard series, Block Trading, Bundled Orders (Multiple Block Trades), Third Party Order execution (Block Trading for Reporting Brokers) and Self Execution Prevention. Revised the ordering of the General and Trading Functionality Sections.
4.6	23 December 2014	Update to the Bulk Quoting Protection functionality
4.5	1 December 2014	Introduction of cash settled instruments
4.4	17 November 2014	Amendments to Risk Controls to reflect the new circuit breaker mechanism and parameters
4.3	20 October 2014	Introduction of Dividend Neutral Stock instruments
4.2	7 July 2014	Change of close of trade reporting session for Norwegian Derivatives to 16:00
4.1	25 November 2013	Update to Series Generation
4.0	30 September 2013	Document creation under London Stock Exchange Derivatives Markets (LSEDM)

LSEDM TRADING SERVICES DESCRIPTION

14 September 2015

1. Introduction

London Stock Exchange Derivatives Market (LSEDM) offers trading of single stock, index and dividend derivatives based on United Kingdom, International Order Book (IOB), Norwegian and Turkish underlyings.

LSEDM's trading platform is hosted in the data-centres of the London Stock Exchange Group (LSEG) and has interfaces common to other markets of LSEG, ensuring that customers accessing other LSEG markets can connect to LSEDM with minimal incremental cost or effort.

LSEDM offers Member firms new and innovative features, in addition to the highly successful market models used for its existing Norwegian and IOB business which has been developed alongside Members.

The LSEDM trading platform operates on SOLA® technology. The current instance of the platform is SOLA version 7.0.

1.1. Clearing and margining

Members can improve operational efficiency and net margin payments across geographies, all through one clearer - LCH.Clearnet Limited.

1.2. Product Overview

Underlying	Single Stock	Index	Dividend
Norway	**Futures and Options** on the Norwegian stocks	**Futures and Options** on OBX, Futures on the OBOSX	
Russia and IOB	**Futures and Options** on the most liquid IOB DRs	**Futures and Options** on FTSE RIOB	**Futures** on the most liquid IOB DRs[1]
UK	**Futures and Options** on UK underlying shares	**Futures and Options** on FTSE 100; **Futures** on the FTSE UK Large Cap Super Liquid Index	
Turkey		**Futures and Options** on BIST 30 index	

For a current list of all products traded on LSEDM and the full Contract Specifications, please refer to the LSEDM Document Library.

[1] **I**nternational **O**rder **B**ook **D**epository **R**eceipts. This includes Dividend Neutral Stock Futures.

2. General functionality

2.1. Series Generation

Detailed contract specifications for each product are specified in the LSEDM Contract Specifications document and on the LSEDM Document Library. A comprehensive list of product codes and underlying ISIN's codes can be found in the Product list on the LSEDM Document Library.

2.1.1. Symbology

The following symbology rules apply to derivatives available for trading on LSEDM.

During the normal Trading Hours for each Standardised Product, LSEDM disseminates 5 levels of market depth. The Market Data information is distributed via HSVF as described in the HSVF technical specification on the LSEDM Document Library.

In the absence of an express statement to the contrary, information relating to a Series which is listed in conjunction with Oslo Børs reflects the combined activity in such Series of Members of LSEDM and Members of Oslo Børs.

2.1.2. Standardised Series Codes

Each instrument is identified by a string of 4-9 characters (excluding Options strike)

- a maximum of six characters designates the Underlying instrument or Index
- one character designates the Expiration Year
- one character designates the Expiration Month
- (Options only) the following numeric characters designate the strike price
- An additional symbol may also be added to indicate that a corporate action has occurred and the readjustment rules have been applied to that series (see below).

2.1.3. Tailor-made (Flex) Series Codes

Each instrument is identified by a string of 6-12 characters (excluding Options strike)

- a maximum of six characters designates the Contract Underlying
- one character designates the Expiration Year
- two characters designate the Expiration Day
- one character designates the expiration month
- (Options only) the following numeric characters designate the strike price
- (Options only) an "A" or "E" designates whether the option is American or European style
- An additional symbol may also be added to indicate that a corporate action has occurred and the readjustment rules have been applied to that series (see below).

2.1.4. Month Code Convention

LSEDM currently uses two separate month coding systems. One system is in use for IOB and Norwegian derivatives, and a separate coding system (international convention) is being used for all other products going forward.

	Norwegian and IOB		
Month	**Index Futures**	**Call Options**	**Put Options and SSF**
January	**A**	**A**	**M**
February	**B**	**B**	**N**
March	**C**	**C**	**O**
April	**D**	**D**	**P**
May	**E**	**E**	**Q**
June	**F**	**F**	**R**
July	**G**	**G**	**S**
August	**H**	**H**	**T**
September	**I**	**I**	**U**
October	**J**	**J**	**V**
November	**K**	**K**	**W**
December	**L**	**L**	**X**

	All other products		
Month	**Futures**	**Call Options**	**Put Options**
January	**F**	**A**	**M**
February	**G**	**B**	**N**
March	**H**	**C**	**O**
April	**J**	**D**	**P**
May	**K**	**E**	**Q**
June	**M**	**F**	**R**
July	**N**	**G**	**S**
August	**Q**	**H**	**T**
September	**U**	**I**	**U**
October	**V**	**J**	**V**
November	**X**	**K**	**W**
December	**Z**	**L**	**X**

2.2. Corporate Actions Treatment Rules

Where possible, LSEDM harmonises the treatment of corporate actions to market standards, please refer to the Derivatives Corporate Actions Policy available on the LSEDM Document Library. For Norwegian products, LSEDM follows Oslo Børs Corporate Action policy.

2.3. Corporate Action Identifier

The presence of any of the following additional letters on the end of a series code indicates that a corporate action has occurred and the readjustment rules have been applied to that series. For example, an "R" would indicate that five corporate actions have been applied to a series during its lifetime with the readjustment rules having been applied five times.

Corporate action number	Identifier
1st	**X**
2nd	**Y**
3rd	**Z**
4th	**Q**
5th	**R**
6th	**S**
7th	**G**
8th	**U**
9th	**V**

2.4. Strike Price Generation

LSEDM generates new strikes on Options series according to the following:

- Minimum number of series in-the-money (ITM)
- Minimum number of series out-of-the-money (OTM)
- Always one series at-the-money (ATM)

2.4.1. Designation of the ATM strike

Every minute, the SOLA derivatives system marks one of the series listed the "ATM" strike price. It does this by looking at the price of the underlying and seeing which series is closest to this level.

At the end of each day, an ATM strike is chosen (or created if it is the night before the listing of a new series) relative to the closing price of the underlying.

New In-the-Money strikes and Out-of-the Money strikes are generated relative to this ATM price.

The ATM strike for a particular underlying/ expiry combination will be created at a level determined by the strike price increment for that expiration. For example, if the strike price generation increment for a particular underlying/expiry combination is 25 index points, the ATM series will be created / chosen at a price ending in 25 points, 50 points, 75 points or 00 points. If the generation increment is 50 points, the ATM strike will be created/ chosen at a price ending in either 50 points or 00 points.

2.4.2. On Request listing of additional standardised series

Members may request by phone or electronic communication to LSEDM Market Operations for a specific Options Series to be listed on the Order book if it is not automatically generated in accordance with the parameters described in the relevant Contract Specifications and the Strike Price Generation section of the Trading Services Description. This is known as an 'On Request' listing.

Members shall provide the following information:

- The Underlying instrument;
- The Expiration Month, which should already exist on screen, (Expiration Day will always be standardised as per the relevant Contract Specification)
- The Strike Price (should be within the same strike price interval that already exists).

LSEDM Market Operations will confirm when the 'On Request' Standard series is available for trading on the Order book.

2.4.3. IOB Market

a) FTSE RIOB Options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Bid price	Increment
All contracts	5	5	0 1000	10.00 20.00

b) IOB DR Options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Bid price	Increment
All contracts	7	7	0 5 10 50 100 200 300	0.10 0.25 0.50 1.00 5.00 10.00 20.00

2.4.4. Norwegian Market

a) OBX Options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Bid price	Increment
<3 months	2	2	0 -150	3.00
			150 – 500	5.00
			500 – 1000	10.00
			1000 +	20.00
3 months >			0 -150	6.00
			150 – 500	10.00
			500 – 1000	20.00
			1000 +	40.00

b) Norwegian Stock Options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Bid price	Increment
≤ 3 months	2	2	0 -2	0.10
			2 – 5	0.25
			5 – 10	0.25
			10 – 30	0.50
			30-80	1.00
			80-200	2.50
			200-400	5.00
			400-600	10.00
			600 +	15.00
> 3 months and ≤ 6 months			0 -2	0.10
			2 – 5	0.25
			5 – 10	0.50
			10 – 30	1.00
			30-80	2.00
			80-200	5.00
			200-400	10.00
			400-600	20.00
			600 +	30.00
6 months >			0 -2	0.20
			2 – 5	0.50
			5 – 10	1.00
			10 – 30	2.00
			30-80	4.00
			80-200	10.00
			200-400	20.00
			400-600	40.00
			600 +	60.00

2.4.5. UK Market – FTSE 100 options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Strike price increment used
1 month	10	10	25 points
≤ 3 months	10	10	50 points
≤ 1 year	10	10	100 points
≤ 2 years	20	20	100 points
≥ 2 years	0	0	-

2.4.6. Turkish Market – BIST 30 options

Expiration	Minimum ITM strikes generated	Minimum OTM strikes generated	Strike price increment used
All contracts	7	7	2 *(corresponding to 2,000 index points)*

3. Trading Functionality

The key features of the LSEDM trading platform are described in this section:

3.1. Order book Trading

LSEDM's Order book operates on a Price-Visibility-Time priority basis. A summary of Order book types, and key information on each, is given in **Appendix A.** All executed trades on the LSEDM Order book will contribute to price and quantity updates in the Market Data Feed (HSVF).

Section 6 (**Risk Controls)** of this document describes controls applicable to LSEDM.

3.1.1. Order Types

Orders of the following type may be placed by Members

- By Price type: (Limit Order, Market Order, Top Order, Stop (loss) order, if touched order);
- By Quantity type: (Minimum quantity order, Iceberg Order)
- By Duration type: (Day order, Good Till Day (GTD), Good Till Cancelled (GTC), Immediate order (FAK/IOC), While connected order)

For a full list of Order Types, please see **Appendix A**.

3.1.2. Placing, Modification and Cancellation of an Order

On placing, modifying or cancelling an Order by way of the electronic trading system, a Member shall provide the following information:

- the Series, Type/ Style, Class and the Listed Product in question;
- the Expiration Month;
- whether its Order is to buy or to sell;
- in the case of an Options Contract, whether it is a Call or a Put;
- the price for the Order;
- the Order's volume;
- whether it is a Limit Order, Market Order or a Combination Order;
- the Account to which the transaction, if executed, is to be allocated;
- if appropriate, the identification code of the Client for whom the Order has been placed.

On placing an Order into the Order book, Members should ensure that the value of the Order does not exceed the maximum permitted size for the Contract in question, Members should note that any Order placed on the Order book which exceeds the applicable maximum permitted size shall be rejected. Members will receive a message stating this. Price and Quantity restrictions are detailed in **Appendix B.** The Tick size applicable for trading on the Order book is described in the relevant Contract Specification.

Any modification of an Order involving its price, the extension of its period of validity, or an increase in the volume of an Order is treated as the cancellation of the original Order and the submission of a new Order. The time priority of such Order shall be determined by reference to the time at which the modified Order is entered on to the Order book.

Where the Order modification involves only a reduction in its volume or period of validity or a change in the Client identity, the ranking of the original Order is not affected.

Modification	Price priority	Time priority
Quantity decrease	Maintained	Maintained
Quantity increase*	Maintained	Lost
Price change*	Lost	Lost

*results in deletion of original order and entry of a new order with new price time priority and associated order number

An Order will remain valid and effective until an instruction to cancel or modify is given by the Member which placed the Order.

A Member may contact Market Operations to cancel an Order entered on the electronic trading system with the relevant order details (instrument, price, quantity, time etc). Members wishing to remove all their Orders from the Order book in one go should contact Market Operations, who can perform this action. Such requests must always be made by a Registered Person.

3.1.3. Cancellation on Disconnection

Members should be aware of the following;

- When conducting the login procedure, SOLA allows for the Member to specify an "inactivity interval" which indicates the number of system "heartbeats" that must be missed before the Member is considered disconnected. This only applies to "While Connected" orders and not to GTD, GTC or Day orders.
- If the inactivity interval is set to "0" then the user is never considered to be disconnected
- "Good Till Day" and "Good Till Cancelled" orders will not automatically cancel on disconnection
- LSEDM therefore strongly recommends the use of "While Connected" orders for Members that are concerned about cancellation on disconnect.

3.1.4. Bulk Quoting (product dependent)

Members that have conformed to the LSEDM SAIL API are also able to send Bulk Quotes to the LSEDM Order book through Bulk Quote Trader IDs. Bulk quotes may contain up to 280 separate quotes with LSEDM validating each quote within the message. Throttles apply as per rates described in the SAIL technical specification. Bulk Quoting is a more efficient way of sending quotes to the trading system as only a single message is required as opposed to multiple cancellations and resends of order messages.

Bulk quotes are only valid for the current trading day.

Protections for Members using Bulk Quoting are described in Section 6 (Risk Controls).

Before the Opening, an "Intervention Period" allows bulk quote users to enter Bulk Quote data which would be used to retrieve the quote ID. The Intervention Period is only available for specific products. Members can continue to cancel orders during this period.

A specific global cancellation message, applying only to quotes placed using the Bulk Quote message, can be sent by Bulk Quote users and will pull all quotes related to a specific trader on all instruments in the same class. The Trader ID and instrument Group ID are used to specify which quotes to cancel. Orders which are not entered using Bulk quotes will not be cancelled.

3.1.5. Quoting Obligations for Market Makers

Firms acting as official Market Makers in a certain instrument class will have to meet a set of quoting obligations that are monitored in real-time by LSEDM.

Market Makers should note the following:

- Quotes must be sent using the Bulk Quote message in the SAIL API
- Quotes must meet the instrument size requirements for a minimum instrument specific percentage of the trading hours in a month
- Quotes must meet the instrument spread requirements for a minimum instrument specific percentage of the trading hours in a month

LSEDM reserves the right to terminate the Market Maker Agreements if the Member fails to meet its obligations. LSEDM also reserves the right to withhold or cancel any incentives, including any revenue share, in the event that the Member fails to meet its obligations or terminates its Agreement early.

For further information with regards on Market Making obligations, please refer to the Market Making Obligations document on the LSEDM Document Library.

3.1.6. Request for Quote (RFQs)

Request for Quote (RFQ) allows any Member to broadcast a message to Market Makers in a particular instrument via the HSVF market data feed. Market Makers, as part of their agreement with LSEDM, have an obligation to reply by entering a quote in to the Order book for that specific instrument.

RFQs contain:

- Instrument Class
- Instrument ID Code

3.1.7. Strategy instruments

- **User generated strategies**

On all Order book traded Futures and Options, LSEDM has enabled SOLA functionality that allows users to create their own strategy instruments and list them as standalone products on the Order book available for trading by the rest of the market.

Derivatives strategy trades can be executed via both “Strategy v.s. Strategy” and “Strategy v.s Legs” functionality. Where a Strategy Instrument can be executed against another Strategy Instrument, the trade will be executed on the terms of the matching Strategy Instrument provided that it is not possible to execute the Strategy against Legs on the Order book on better terms.

A strategy can have a maximum of four legs. Each leg of the strategy must: (a) contain instruments with the same contract size, and (b) have legs that appear in natural number ratios, i.e. as multiples of the smallest leg size in increasing order[2]. Market participants will need to enter the net price of the strategy, i.e. the sum of the price of each leg. SOLA automatically validates the price and quantity before allowing completion of the execution. Strategy instruments interact with circuit breakers. Trades executed in Strategy

[2] If market participants wish to enter a strategy with derivatives based on different underlyings/ contract sizes, they may use the **Bundled Order functionality** – please refer to para. 3.3.2. of this document.

instruments contribute to price and quantity updates to the Market Data Feed (HSVF).

A strategy may be placed as either as a Limit Order or a Market Order. See **Appendix A** for more details.

- **Automatically generated strategies**

For Order book traded Index Futures only, LSEDM automatically lists Calendar Spreads or "Roll" strategy instruments.

Typically, LSEDM will automatically generate a roll instrument between the expiring series and the following expiry month which are available for trading on the Order book.

For IOB, Turkish and UK products, buying a Calendar Spread would mean that market participant buys the near month future and sells the far month future. **For Oslo products**, the legs are reversed i.e. buying an Oslo Calendar Spread would mean that market participants sells the near month future and buys the far month future.

- **Pre-configured strategies for front-end solutions**

Through LSEDM's SOLA APIs, developers can create front-end solutions with pre-configured strategies using the **FLEXCO creation/ New Strategy Instrument** message. For further details, please see the LSEDM Technical Documentation (SAIL Specification and FIX Specification).

For example, BTS (the LSEG front-end solution) allows market participants to select one of several pre-configured 2, 3 and 4-legged strategies, as per the table in **Appendix D**, through its Strategy Wizard. BTS also allows users to build their own customised strategies through FLEXCO creation field.

For further information on strategies, please refer to the specific product documentation on the LSEDM Document Library.

3.2. Tailor-made (Flex) series

3.2.1. Tailor-made (Flex) series creation

LSEDM allows for market participants to create Tailor-made (Flex) derivative series in the trading platform intra-day, and to report Block Trades on them. These series will be Hidden (not disseminated via HSVF as public Reference Data) and only visible to the Participant/Firm that has created them. Members will be able to retrieve ISINs for Tailor-Made (Flex) derivatives through the Clearing System (BCS Application) or through secure FTP in Excel or CSV report formats.

Market participants will be able to create Tailor-made (Flex) series specifying the Underlying, Expiry Day/Year, Strike (only for Options), Option Style (only for Options), Instrument Type (call/put, only for Options) and Delivery Type (cash vs physical).

Tailor-made (Flex) series will remain active until the expiration date specified at the moment of the instrument creation. Market participants will not be able to create Tailor-made (Flex) series with the same characteristics of an existing Standard instrument.

3.2.2. Conversion of Tailor-made series to Standard series

When the LSEDM trading platform automatically generates a **Standard series with the same parameters of a Tailor-made (Flex) series** (e.g. due to the generation of new expiries, or new strikes due to movement of the underlying security), the trading

platform automatically converts the Tailor-made (Flex) series to Standard series.

The new Standard series inherits the same ISIN as the original Flex series. The series will become public and instrument data will be disseminated via HSVF as public Reference Data.

3.3. Block Trading

Block Trading is available for Standard series or Tailor-Made series, with the guarantee of CCP Clearing with LCH.Clearnet Limited. Block trades in Standard series contribute to price and quantity updates to the Market Data Feed (HSVF). Block trades in Tailor-made series remain Hidden and only visible to the Participant/Firm involved in the trade.

Block Trading is an electronic alternative to the manual Trade Reporting process (see **section 3.4**) for LSEDM Members. The relevant section of the LSEDM Rulebook (Trade Reporting) applies to Block Trading.

3.3.1. Block Trades – "Cross" / "Committed" trades

LSEDM allows Block Trading, i.e. the electronic entry and confirmation of bilaterally negotiated trades between two different counterparties ("Committed" trade) or with a single counterparty filling both sides of a trade ("Cross/ Two sided" trade).

Block trades are permitted both in Standard and Tailor-made (Flex) series:

- Above a minimum "Block" Size;
- Within certain price and risk control parameters in addition to quantity and control parameters, for example the Bid/Ask or reasonable theoretical price (pre- or post-trade, depending on the product and size);
- According to the specific product tick table. Please refer to the "LSEDM401 HSVF Market Data Technical Specification" on the LSEDM Document Library for details.

A summary of Block order types, and key information on each, is given is **Appendix A**. A summary of minimum Block sizes and price controls on a product basis is provided in **Appendix B**. Further information on Risk controls is provided in **Section 6**.

3.3.2. Bundled Orders (Block trades with multiple legs)

LSEDM facilitates the grouping of multiple Block trades into one unique window through the Bundled Order functionality. This functionality offers certainty of simultaneous execution of all the individual legs included in the Bundled Order, or no execution at all. The functionality is highly customisable, allowing market participants to create their Bundled Orders with the same or different counterparty and same or different financial instruments in each leg, and an individual price for each leg.

The Bundled Order functionality offers an alternative to the Strategy functionality on the LSEDM platform, whilst providing additional flexibility in as described below.

Through the Bundled Order functionality:

- Traders can enter a Bundled Order in up to four legs;
- Traders can independently specify for each leg of the Bundled order:
  - The financial instrument (e.g. Option or Future), including Standard and/or Flex series;
  - The price and size;
  - The counterparty;
  - Buy or Sell.

- The same Trader ID must be used for each leg of the Bundled Order.

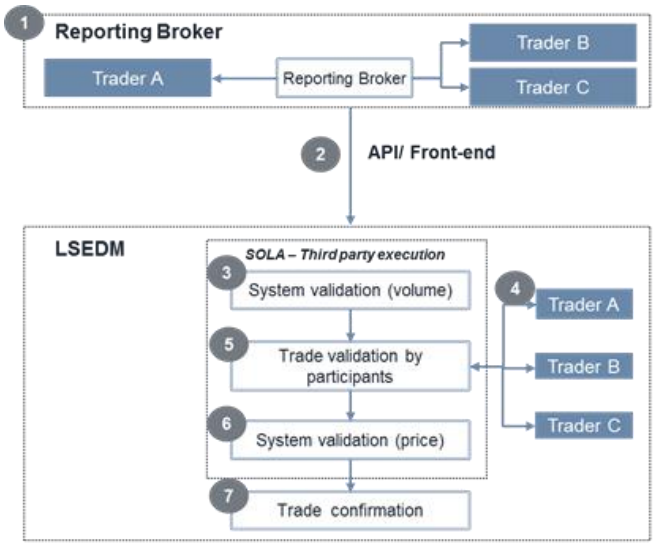
Once the Bundled Order is entered, each counterparty will receive a notification message. On receipt counterparties will be able to submit acceptance of its Leg of the Bundled Order, or reject it. In case of rejection from one of the counterparties, acceptance by any other counterparty of the Bundled Order will be inhibited. Pending legs will remain in the system till the close of the Block Trading Facility (i.e. end of Order book trading hours) until they are all accepted. The Bundled Order will be registered and sent to clearing only on acceptance of all of the counterparties. Price and quantity validation are also applicable.

For further information on Bundled Orders, please refer to the specific product documentation on the LSEDM Document Library.

3.3.3. Third Party Order execution (Block trades for Reporting Brokers)

LSEDM allows for Members registered in the capacity of Reporting Brokers to initiate electronically the execution process for a Block trade through the Third Party Order execution functionality. This is an alternative to the current manual Trade Reporting process, as in section 3.4. Through the Third Party execution functionality, Reporting Brokers will be able to submit a trade as a Block Trade or Bundled Order for either Standard or Tailor-made (Flex) series which has been executed between multiple counterparties:

- Reporting Brokers can enter a Third Party trade with up to four legs;
- Reporting Brokers can independently specify for each leg of the Third Party
  - The financial instrument (e.g. Option or Future), including standard and/or flex series;
  - The price and size;
  - The counterparty;



Reporting Broker

1. Reporting Broker negotiates trade bilaterally between Traders A, B and C
2. Reporting Broker enters trade (cross-order) details via through the Third Party Execution functionality in SOLA

LSEDM – SOLA Third-party processes

3. SOLA validates the order (quantity control checks, if any)
4. Trade details are sent to LSEDM members (A, B and C) for confirmation
5. Messages are sent to the Reporting Broker for each confirmation/ rejection.
6. Once all participants confirm, SOLA performs price validation checks
7. Trade is confirmed and sent to CCP (messages are sent to Reporting Broker/ traders).

- Buy or Sell.

Once the Third Party Order is entered by the Reporting Broker, each counterparty will receive a notification message without disclosing the names of the other counterparties (only the name of the Reporting Brokers will be visible). On receipt, the counterparties will be able to submit acceptance of its own leg of the Third Party Order, or reject it. In case of rejection from one of the counterparties, acceptance by any other counterparty of the Third Party Order will be inhibited. Pending legs will remain in the system till the close of the Block Trading Facility until they are all accepted. The Third Party Order will be registered and sent to clearing only on **acceptance from all counterparties**.

Price and quantity validation are also applicable.

To register as a Reporting Broker and enable access to the Third Party Execution functionality in SOLA, please contact membership@lseg.com.

3.4. Trade Reporting

LSEDM Trade Reporting and Registration service offers the manual reporting of bilaterally negotiated trades. Manual Trade Reporting is an an alternative to electronic Block trading (see **section 3.3**) for LSEDM Members.

These can be reported either in a Standard series or Tailor-Made series, with the guarantee of CCP Clearing with LCH.Clearnet Limited. A template for trade reporting is provided to report trades to the Market Operations team via email at etd.tradereporting@lseg.com. LSEDM will register each side of the trade and confirm that they are on the appropriate accounts as per the template received.

LSEDM should be provided with following details of the transaction on the Trade Report:

- the type of and class of a Listed or Non-Standardised Contract;
- the term if a Tailor-made Contract
- the Strike Price
- the style;
- whether it wishes to buy or to sell;
- the name and account(s) of the Counterparty/Counterparties

Members are able to receive through secure FTP in Excel or CSV formats reports containing ISIN information on a Trade Reporting series to aid FCA Transaction Reporting. Please contact Market Operations for further information.

Trade Reports in Tailor-made series will not be published and remain Hidden. Trade Reports in Tailor-made series will be subject to a reasonable theoretical price validation by LSEDM Market Supervision prior to acceptance.

Trades Reports in Standard series must comply with the requirements including size and price within **Appendix B**. Trade Reports in Standard series are always published.

3.5. Trade Cancellation

Requests for cancellations of trades executed through the Order Book, Block trades and Trade Reports should be made to LSEDM Market Supervision, in accordance with the procedure and timings as per the Rulebook, available on the LSEDM Document Library.

4. Connectivity and Access

		Trading	Clearing	Market Data
API and Connectivity	Extranex Hosting VPN NSP	SAIL API FIX 4.2 API	BCS API	HSVF API
	Vendor Access Network (VAN)	VAN* provided network and applications		
Application	LSEDM solution	BTS	BCS	CC&G FTP site	BTS
	External solution	Member In-House GUI	ISV provided GUI*	ISV GUI*	Market Data Vendor*

* **See the London Stock Exchange website for a full list**

Please refer to the "LSEDM102 Connectivity Guide" on the LSEDM Document Library for further details on the connectivity options listed below.

4.1. Physical Connectivity

4.1.1. Extranex

Extranex provides customers of the London Stock Exchange Group, including LSEDM Members with a dedicated, resilient and secure point to point connection allowing transmission of data traffic to and from the Group's Trading, Clearing and Information Systems. A range of service options are available to suit varying customer requirements. See the LSEDM Document Library or contact LSEDM Technical Account Management team (londontam@lseg.com) for more details:

http://www.londonstockexchange.com/products-and-services/connectivity/extranex/extranex.htm

4.1.2. Hosting

Members may choose to house their servers in LSEG's data centre in close proximity to the LSEDM servers.

- Virtual Private Network (VPN)

For Members seeking a low cost solution and who are less sensitive to latency, LSEDM will configure and deliver a router to allow trading and clearing access over a standard internet connection.

- Network Service Providers (NSP)

As an alternative to using the Extranex network, the Group's services, including the LSEDM, can also be accessed through accredited NSPs.

Members contract with the NSP for provision of network connectivity but sign agreements directly with the LSEDM for access to our trading and information services.

Clients using an NSP connection will have individual service enablement's set up on our trading, clearing and information systems. The data and trading feeds (APIs) are in exactly the same format as those received by a direct customer and are subject to the same testing requirements.

A list of all current NSPs for LSE can be found on the LSE website.

4.2. Vendor Access Networks (VANs)

VANs provide a full end to end solution comprising network connectivity and pre-conformed software applications through which their clients can interface with the LSEDM.

4.3. Vendor Software Solutions

- MDVs, ISVs and VANs

A full list of LSEDM conformed Front, Middle and Back Office Independent Software Vendors (ISVs), Market Data Vendors (MDVs) and VAN providers can be found on LSE website.

- BTS Trading Application

LSEG's front end solution, BTS, allows access to LSEDM trading services and all other LSEG Equity and Fixed Income markets, including Turquoise.

LSEDM can supply BTS to members as an off-the-shelf ready-made trading application. Using BTS, members can access functionality including order entry, deletion, viewing of the Order book to five levels of depth, creation of strategy instruments and the reporting of Cross and Committed block trades.The following BTS documents are available from the LSEDM Document Library: LSEDM801 BItS Trading Station (BTS) User Manual

- BCS Clearing Application

Members can develop directly LSEDM clearing API, however most clearing members will take the LSEDM supplied BCS application to enable them to view reports, perform give ups/ take ups, move trades between accounts and perform other post trade administration.

The following BCS documents are available from the LSEDM Document Library:

LSEDM701 BItS Clearing Station (BCS) User Manual;

LSEDM702 BItS Clearing Station (BCS) Application Data Layouts

LSEDM703 BItS Clearing Station (BCS) Technical Notes

4.4. BCS FTP Service

LSEDM clearing reports are available via an FTP site accessible with a user name and password

Contact Technical Account Management for FTP Service documentation

4.5. Trading APIs

LSEDM provides two derivatives trading APIs that applications can be developed to. These are:

- **FIX 4.2**
- **SOLA Access Information Language (SAIL)**

The native SAIL API provides a slight latency advantage over the FIX API along with additional functionality for bulk quoting.

The following FIX and SAIL documentation is available from the LSEDM Document Library. including the SOLA Release documentation

LSEDM200 – FIX Business Design Guide

LSEDM201 – FIX 4.2 Specification

LSEDM300 – SAIL Business Design Guide

LSEDM301 - SAIL Specification

4.6. Drop Copy

The drop copy feature allows drop copy participants to receive a copy of all order acknowledgements and trade notifications that belong to a specific Member.

Drop copy messages are all sent using the SOLA Access Interface Language (SAIL), even where the Member's original order was sent using the FIX protocol.

SAIL messages included in the drop copy are:

Message
Order Acknowledgement
Order Modification Acknowledgement
Order Cancellation Acknowledgement
Order Cancellation Notice
Execution Notice*
Leg Execution Notice*
Execution Cancellation notice*
Leg Execution Cancellation Notice*

* contains "Maker-Taker" flag

For more information on drop copy functionality please refer to the following document on the LSEDM Document Library: LSEDM302 SAIL Drop Copy

4.7. Market Data API

LSEDM provides a single market data API that applications can be developed to. This is:

- **High Speed Vendor Feed (HSVF)**

HSVF disseminates trades, quotes, request for quotes, market depth, trade cancellation, strategies, bulletins, instrument keys, instrument summaries and administrative messages for all order-book traded derivatives on LSEDM. HSVF uses a TCP/IP broadcast interface. Users may subscribe to:

Level 1 data – best bid and ask price and aggregate size, last trade price and size and other market data as detailed in the documents listed below.

Level 2 data – level one data augmented with a further four levels of price depth and size

The following HSVF documentation is available from LSEDM Document Library including the SOLA 7 Release documentation: LSEDM401 - HSVF Market Data

Members wishing to redistribute market data must do so under the terms of the ILA and should refer to our Tariff Schedule, or contact the LSEDM Business Development team for more information.

4.8. Clearing API

LSEDM provides a clearing API that applications can be developed to for the purpose of allowing clearing processing and trade administration.

The documentation is available on request from Technical Account Management.

5. Clearing and Market Operations

5.1. Transaction reporting and Market Identifier Code (MIC)

Every unique series on LSEDM has an associated ISIN code. This ISIN is a unique identifier that can be used for transaction reporting purposes.

Each series can also be identified by its unique series level code, described in the Section 2.1.1 (symbology).

When the LSEDM trading platform automatically generates a Standard series with the same parameters of a previously created Tailor-made (Flex) series with a standard expiration (due to the generation of new expiries, or new strikes due to movement of the underlying security), the trading platform automatically converts the Tailor-made (Flex) series to Standard series. The new Standard series inherits the same ISIN as the original Tailor-made (Flex) series. The series will now become public and instrument data will be disseminated via HSVF as public Reference Data.

The Market Identifier Code (MIC) for LSEDM is XLOD.

5.2. Central Counterparty Protection

All Future and Option Contracts traded/reported on LSEDM will have LCH.Clearnet Limited acting as Central Counterparty.

At the point of trade registration, trades are novated to LCH.Clearnet Limited, whereby LCH.Clearnet Limited becomes the long position against the short counterparty to the trade, and the short position against the long counterparty to the trade.

5.3. Margining and Position Controls

Initial margin is calculated and collected by LCH.Clearnet Limited using London SPAN V 4.0. There are three major inputs to the London SPAN margin calculation, Positions, Prices and Parameters (determined by LCH.Clearnet and reviewed on a regular basis). Any change to any one of these parameters will result in a change to the margin requirement. Please refer to the SPAN parameters on the LCH.Clearnet Limited website.

LSEDM calculates daily variation margin of a members' profits or losses using the Daily Settlement Price to mark-to-market open positions. The collection/return of variation margin is administered by LCH.Clearnet Limited.

Derivative outturns with the exception of LSEDM Norwegian contracts benefit from margin offsets and optional cross trade source netting through LCH Clearnet EquityClear Service.

Buyer elections on all physical delivered contracts, excluding LSEDM Norwegian contracts, will be allowed under the EquityClear Service. Members will have the ability to choose an option or combination of options, in a participating Corporate Action giving more control over their investments, as opposed to the current default option process.

LSEDM monitors positions and may place limits on their size. LCH Clearnet Limited will request margin on all positions and it is each member's responsibility to meet their margin requirements

5.4. Give Ups

When one side of the trade needs to be given up to another Clearing Member, it is the responsibility of the reporting member to request that both the buy and sell side of the trade go onto their own account; they will then be required to manage any give ups with their GCM directly.

5.5. Account Structure

Members can request the following types of account from LSEDM Operations through membership@lseg.com.

- Client account
- House account
- Market Maker account (for Members under provision obligations)

Market Operations will supply the Member with a “Static Data Form” upon request, on which account set up requirements can be specified. The member can then segregate business as required.

Through LCH.Clearnet Limited, LSEDM currently offers Clearing Members both Omnibus Segregated Accounts (OSAs), i.e. an account held by the Clearing Member for the purposes of holding positions for one or more Clients (which may or may not be known by the Clearing House) and Individual Segregated Accounts (ISAs), i.e. an account held by the Clearing Member for the purposes of holding positions for a single named client.

5.6. Market Operations and Clearing Processing Timetable

Times may vary depending on market conditions

Action	Market			
	UK	Russia	Norway	Turkey
Start of consultation period (Members can delete orders)	**05:30**	**05:30**	**05:30**	**06:30**
Start of Intervention Period (Members can retrieve Bulk Quote ID for certain products)	**07:30**	**07:30**	**07:30**	**07:00**
Start of Trade Reporting hours	**07:30**	**07:30**	**07:30**	**07:10**
Start of Continuous Trading	**08:00**	**08:00**	**08:00**[3]	**07:10**
End of Continuous Trading	**17:00**	**15:30**	**15:20**	**15:45**
End of Trade Reporting hours	**17:30**	**17:30**	**16:00**	**17:30**
Surveillance intervention period ends (Members can no longer delete orders)	**18:00**	**18:00**	**18:20**	**17:50**
Clearing closes (read-only access available in BCS)	**18:00**	**18:00**	**18:00**	**18:00**
Clearing batches begin (BCS inaccessible)	**18:45**	**18:45**	**18:45**	**18:45**
Clearing reports available	**19:30**	**19:30**	**19:30**	**19:30**
Official closing prices disseminated (can be amended over-night)	**21:00**	**21:00**	**21:00**	**21:00**

All times are London times; Timing of clearing batches, clearing reports and closing prices dissemination is approximate.

[3] Continuous Trading for OBX Index Futures starts at 7:30

Until clearing closes at 18:00 daily, members are able to perform trade administration such as give ups/ takes ups, position transfers and close outs in the clearing system.

5.7. Clearing reports

Members can extract reports summarising their activity on LSEDM from the clearing API and clearing applications (including the CC&G FTP Server).

For more information on these reports and how to access them, please refer to Section 4 (Connectivity and Access).

5.8. Exercise and Assignment guide

Currently, LSEDM offers two Options styles on its derivatives markets with the following exercise windows:

Option style	Exercise	Exercise window	
		Open	Close
American style	Any business day from trade date until day before expiry	07:30	18:00
European style and American style	Expiry day only	18:10	18:40

All times are London times; Timing for Exercise Window is approximate.

LSEDM applies the following automatic exercise rules on expiration:

Market	Index Options	Stock/ DR Options
Norway	All series that are in-the-money by more than the exercise fee payable	All series that are 1% or more in-the-money
IOB	All series that are in-the-money by more than the exercise fee payable	All in-the-money series
UK	All in-the-money series	All in-the-money series
Turkey	All in-the-money series	

Manual exercise can be performed through the member's clearing application (for example on a Norwegian series that is less than 1% in-the-money).

5.9. Settlement and Delivery for Physical Settled Contracts

If the Member holds a net Short Futures position, LSEDM shall make available normally prior to 22:00 London time on the day in question through the Clearing Application the report "Expired Futures Positions to be settled MD51". This report provides details relating to the Settlement Delivery obligations for the Underlying Stock in respect of its own Account Transactions and of Transactions executed on behalf of a Client together with the Settlement Amount payable to the Member in respect thereof.

If the Member holds a net Long Futures position, LSEDM shall make available normally prior to 22:00 London time on the day in question through the Clearing Application BCS, the report "Expired Futures Positions to be settled MD51". This report provides details relating to the receipt obligations for the Underlying Stock in respect of its own Account Transactions and of Transactions executed on behalf of a Client

together with the Settlement Amount due to the Member in respect thereof.

Where a Member Exercises an Option and the Exercise is accepted by LSEDM, or the Member is Assigned, Exchange shall make available normally prior to 22:00 London time on the day in question through the Clearing Application BCS the report "Options Exercise/Assigned to be settled MD01". This report specifies the number of Underlying Stock to be delivered by or to the Member in respect of own Account Transactions and of Transactions executed on behalf of a Client together with the Settlement Amount payable to or by the Member in respect thereof.

The Member shall ensure that the information specified in the relating reports "MD51 and MD01" are accurate in all respects and notify the Exchange of any discrepancy no later than 08:00 London time on the Trading Day after the affected day of Delivery or Exercise.

6. Risk Controls

6.1. Order book

6.1.1. Price controls

Circuit breakers will activate and trigger a 60 second suspension of trading when a trade occurs at a price level deemed to be an unacceptably large percentage margin away from static or dynamic control prices defined by LSEDM.

LSEDM can set separate circuit breakers against the static control price with respect to both orders and trades. In particular market conditions, LSEDM may, with reference to markets, categories of financial instruments or individual instrument modify the maximum price variation limits, the static price, the dynamic price and other trading conditions.

Definitions of control prices are as follows:

- **Static control price** – the previous day closing price as determined by the London Stock Exchange Derivatives Market and CC&G OR a manually inputted price;
- **Dynamic control price** – the last traded price in the current session.

Levels set by LSEDM are detailed in **Appendix B**.

For Stop Loss and If Touched orders, the incoming order price cannot be outside the price control thresholds detailed in **Appendix B**. Additionally if, when triggered, the price on such an order violates the control parameters, the incoming order is deleted and the circuit breaker suspension is triggered. In the event that the circuit breaker will continue to persist due to a member's order(s) that is outside the static or dynamic thresholds and LSEDM has taken reasonable action to contact the member in relation to that order and the member has not responded, LSEDM reserves the right to delete the order to resume continuous trading.

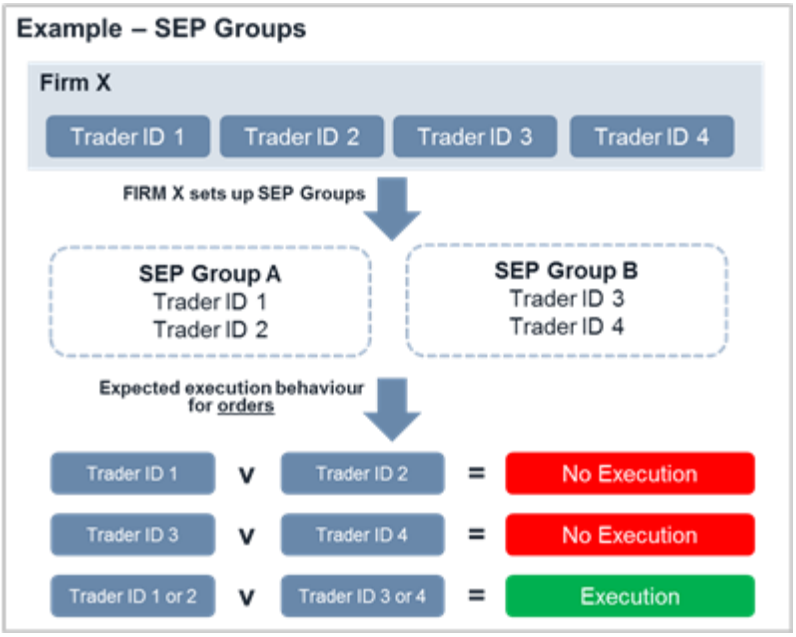
6.1.2. Self Execution Prevention

LSEDM trading platform provides Self-Execution Prevention ("SEP"), with the purpose for market participants to avoid execution when an order crosses an opposite-side order sent by the same trading firm on the Order book (i.e. "self matching").

SEP on SOLA is user-configurable, allowing for each market participant to specify which Trader IDs of its firm will or will not be able to interact, and determine which order (incoming or resting) takes precedence. SEP applies during continuous trading for Limit, Market, Top, Stop (loss) and If-Touched orders.

Basic functionality:
Market participants can define one or more Self-Execution Prevention Groups ("SEP Group") for their Trader IDs. Members can set up their SEP Groups by contacting their Technical Account Manager at londontam@lseg.com

- A SEP Group will contain one or more TraderIDs from a particular firm. A SEP Group cannot include TraderIDs from multiple firms. A TraderID will be allowed to be associated only to one SEP Group.
  - Orders submitted from TraderIDs within the same SEP Group will not be allowed to interact with each other;



- Orders submitted from TraderIDs in different SEP Group will be allowed to interact with each other.
- SEP will take effect upon aggression of the order (before execution) and not on order entry or replenishment.

The diagram above explains how the interaction between TraderIDs/ SEP Groups works on SOLA.

"SEP Rules" regulate the interaction of orders from a firm and are defined at the TraderID level. Different rules can be applied to TraderIDs included in the same SEP Group. The SEP rule of the **incoming order (i.e. the aggressive order)** will regulate the interaction between two orders which are part of the same SEP Group.

The following **SEP Rules** will be available for each TraderID:

- **Cancel Incoming Order (CIO)**: leaves the resting order while expiring the incoming order;
- **Cancel Resting Order (CRO)**: expires the resting order while allowing the incoming order to aggress (and rest in the book if it is not matched);
- **Cancel Both Orders (CBO):** expires both the resting order and the aggressing order;
- **Reduce and Cancel (RC)**: cancels both orders if they are of the same size. For those not of the same size, the smallest order will be cancelled and the larger order will be reduced by the size of the smaller order before executing/resting. Both orders will also be cancelled if the resting order is marked with any Self Execution Prevention (other than RC) and the incoming order is smaller than the resting order.

The table below explains the expected behaviour of SOLA when orders/quotes from TraderIDs from the same SEP Group interact.

SEP Rules Expected trading behaviour			Resting is a:	
		Rule	Order	Quote
Incoming is a:	Quote	CIO	Cancel Resting Order Quote takes precedence	Execution No Self Execution Prevention
		CRO		
		CBO		
		RC		
	Order	CIO	Cancel Incoming	Cancel Incoming Order Quote takes precedence
		CRO	Cancel Resting	
		CBO	Cancel Both	
		RC	Reduce and Cancel	

Exceptions to SEP Rules:

- If a self-execution is identified involving a quote (as a resting or aggressive order), the SEP Rule attached to the incoming TraderID will be ignored and the following rules will apply:
    - In case the opposite side is an order (i.e. it is not a quote), the quote will survive while the order (incoming or resting) will be cancelled;
    - In case the opposite side is a quote (e.g. two quotes submitted by two different TraderIDs of the same market participant), no SEP rules will be applied i.e. the trade will be executed.
- **Strategies:** SEP will only apply for orders with potential executions in the "Strategy v Strategy" scenario, i.e. if a strategy instrument could execute against another (resting) strategy instrument, SEP will prevent this execution. SEP will **not apply** in the Strategy v Legs case, i.e. when a strategy instrument could execute against orders on the Order book, the trade will be executed.
- Minimum **quantity orders:** SEP will not apply to execute minimum quantity orders, including icebergs, Fill Or Kill (FOK) and Fill And Kill (FAK) orders.
- **"Internal" cross orders:** SEP will not apply to cross orders with the same counterparty on both sides.

6.1.3. Order Quantity Controls

Orders are reviewed by LSEDM Market Supervision for purposes of market quality. Product specific settings are in detailed in **Appendix B**.

The futures contracts value ranges are available in **Appendix C**.

6.2. Price Controls on Block Trades

Block trades on **Standard series** electronically submitted to LSEDM will be subject to the following automatic controls:

- Where the price of the Block falls outside the real-time bid/ ask spread, LSEDM

defines a minimum acceptable quantity for the trade which is product specific.

- LSEDM sets a maximum permitted percentage deviation from the real-time bid/ ask spread for such Block trades.
- Any Block trade at a price more than this percentage i.e. below the bid/ above the ask, will not be accepted.
- Where the price of the Block falls inside the real-time bid / ask spread, the trade is subject to normal order quantity controls.

Product specific settings are in detailed in **Appendix B.**

Block trades on **Tailor-made (Flex) series** electronically submitted will be subject to a post-trade theoretical price validation check by LSEDM Market Supervision. The Exchange may unilaterally cancel any trades that fail to its meet its controls.

6.3. Price Controls on Trade Reports (manual process)

Trades sent to LSEDM for Trade Reporting and Registration are subject to price control by LSEDM Market Supervision.

- For Standard series, trades must obey the Product specific settings as detailed in Appendix B;
- For Tailor-made series, trades will be subject to a theoretical price validation check by LSEDM Market Supervision.

6.4. Bulk Quoting Protection

Bulk quoting protection is a functionality provided by LSEDM provided function that will result in an automatic cancellation of all quotes in a particular instrument class under certain conditions.

The feature protects Bulk Quote users against any "excessive" trades due to the following:

- Technical problems at participant's end preventing normal market updates
- Quoting errors at participant's end due to erroneous underlying price information
- Unintentionally being "swept" by another participant

6.4.1. Bulk Quoting Protection Types

Bulk quoting protections apply to each trader ID for an underlying instrument group. Users may opt for one of two types of bulk quoting protection:

- **Standard protection:** If protection is triggered on an instrument class, quoting will be restarted and counters (detailed below) reset the next time a bulk quote message is sent to any instrument in the class.
- **Advanced protection:** If protection is triggered on an instrument class, any subsequent quote update is rejected and quoting can only be resumed after the a new "Protection subscription" (RP) message is sent.

Once protection is triggered, the London Stock Exchange Derivatives Market will automatically cancel all quotes posted by the trader on all instruments in the class and send a "Notice of cancellation of all quotes" (NP) message.

6.4.2. Protection counters

Bulk quoting protection is active on all quotes sent using the Bulk Quote message functionality

LSEDM provides five protection counters which can be set by firms using bulk quotes in a specific instrument class

Counter type	Counter change condition (applies to all trades in any instrument of the class)	Trigger for bulk quoting protection
Trade count (of Min Lot Size)	Increases by 1 with each execution of a trade of at least N lots (where N is a user defined number). Max number of trades = Count (Trade where volume ≥ Minimum Trade Volume)	LSEDM default threshold **OR** User defined number of trades of at least N lots in size
Volume count	Increases by the trade volume of every execution	LSEDM default threshold **OR** User defined volume
Value count	Increases by the trade value of every execution Max Value = ∑ (Volume x Price x Contract Size x Tick Value)	LSEDM default threshold **OR** User defined value
Delta volume count	**Increases** by trade volume of every bought call option, sold put option and bought future; and **Decreases** by trade volume of every sold call option, bought put option and sold future	LSEDM default threshold **OR** User defined net volume
Delta value count	**Increases** by trade value of every bought call option, sold put option and bought future; and **Decreases** by trade volume of every sold call option, bought put option and sold future	LSEDM default threshold **OR** User defined net value

Any number of counters can be activated simultaneously. Traders must define a "Time Interval". The protection counters are reset in the event that the time elapsed between any two trades is longer than the user defined "Time Interval".

Protection counters are listed and described in the table below.

6.4.3. Default protection and ranges

LSEDM provides default thresholds for the protection counters within the trading system (see **Appendix E**). LSEDM sets the default to ensure adequate protection for bulk quote users. Bulk quote users may define their own customised thresholds. When defining their thresholds, users must adhere to the minimum and maximum configuration ranges in the tables in Appendix E. If a value outside the relevant minimum or maximum is selected, LSEDM will reject the message and users will be unable to set up their customised protection thresholds.The protection must be activated before the start of each trading day by sending an "RP message" to select the type of protection (Standard or Advanced). For each trader ID, bulk quote users need to send a "bulk quote" message (BD) to begin their quoting activity with the user defined thresholds (including the Time Interval, Maximum Volume and Value limits, and Maximum Delta Volume and Value limits).

If the values of the thresholds are not user defined, then the LSEDM default thresholds are selected, as in **Appendix E**.

For further information on the Bulk Quoting Protection functionality, please refer to the Bulk Quoting Protection Description document on the LSEDM Document Library.

7. Tariff Models

LSEDM operates several products with specific pricing models. Tariff schedules are available on the LSEDM Document Library.

The different tariff models currently in use on LSEDM are detailed below.

Fee per lot

Products using this system simply apply one universal fee to each side of the trade based on the number of contracts traded, Per-Trade Charging

Percentage of Futures value

Some products are charged based on a "percentage of future value" system, for example IOB Dividend Futures.

Future Value = (future price traded) x (number of contracts) x (multiplier)

Percentage of premium value

Some products are charged based on a "percentage of premium value" system, for example IOB DR Options

Premium Value = (premium) x (number of contracts) x (multiplier)

8. Contacts

For more information on LSEDM, or any services offered by LSEDM, please contact a member of our team.

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9. Appendix A – Order Types

9.1. Order types for electronic, anonymous Order book trading

	Order type	Description
Price Type	**Limit order**	Enters Order book at specified price and will execute at that level or better. Residual is retained on order-book (unless designated as an **immediate order**) until withdrawn or traded.
	Market order	Executes at best available price until all volume on opposite side has been traded. Residual is converted to a **limit order** at last price that original order was executed.
	Top order	Executes at best available price against any single contra order. Residual is converted to a **limit order** at price just traded.
	Stop (loss) order	Order enters book to prevent further loss once either the Last price or Bid or Ask (as selected) reaches a stated trigger price. Entering order can be set as limit order by entering a specific order price. Alternatively, it can be set as a market order by leaving the order price field blank. Residual is retained on order-book.
	If-Touched order	Order enters book seeking to capitalise once either the Last price or Bid or Ask (as selected) reaches a stated trigger price. Entering order can be set as limit order by entering a specific order price. Alternatively, it can be set as a market order by leaving the order price field blank. Residual is retained on order-book.
Quantity Type	**Minimum quantity order**	Tries to execute at the specified price for at least the stated 'Additional Quantity' (AQ). If the AQ cannot be immediately filled, the order is rejected. If the AQ is filled, the residual is retained on the Order book and can trade without further quantity constraints.
	Iceberg/ disclosed quantity order	Enters book as **Limit order** for only the 'Additional Quantity' (AQ) visible, and any balance is held "in reserve". The visible quantity is assigned time-priority at the point of insertion in relation to other displayed orders, whilst the reserve quantity is assigned time priority in respect of other non-displayed orders. When this disclosed/ AQ amount has been traded, the system refreshes the visible quantity from the reserve quantity.
Duration Type	**Day order**	Remains on the book and cancelled at end of the day unless traded or deleted.
	Good Till Day (GTD)	Remains on the book and cancelled at the end of the day specified in the GTD field unless traded or deleted.
	Good Till Cancelled (GTC)	Remains on the book until expiration unless traded or deleted.
	Immediate order (FAK / IOC)	Immediately executed against any existing orders at the specified price of better, up to the stated volume. Residual volume is deleted.
	While connected order	Remains on the book until participant disconnection or front end failure unless traded or deleted.

9.2. Block Trades

Order type	Description	Effect market data	Matching requirements
Committed (interbank)	Matching facility to support reporting of executions negotiated between different members for the purpose of trade publication and clearing. Trades must specify the intended counterparty and do not interact with the anonymous Order book. Trades stay in the committed book until the end of the day unless matched or deleted.	Trades must meet certain quantity and price threshold determined by LSEDM on a product specific basis. Trades contribute to the Market Data Feed with quantity and price updates.	Both sides must enter a committed trade with opposing buy and sell sides, same price, same quantity and the correct counterparty or the trades will not match. Committed trades not matched by the end of the trading session are automatically deleted.
Cross (intrabank)	Trade is pre-arranged by one member acting on behalf of each side and reported to LSEDM. Trades do not interact with the anonymous Order book.		Matching not required as trade details are entered by one participant only.
Bundled	Members are allowed to group several bilaterally negotiated trades on same/different instruments within an unique order, offering certainty of simultaneous execution, or no execution at all. Each leg of the Bundled Order must specify the intended counterparty and do not interact with the Order book. Trades stay in the committed book until the end of the day unless matched or deleted.		Each leg must be approved by the opposing counterparty (same price, same quantity), otherwise the trades will not matched. Once all legs are approved, trades in the Bundled Order are confirmed and sent to clearing. Legs of the Bundled Orders not matched by the end of the trading session are automatically deleted.
Third Party	Members registed as Reporting Brokers can arrange a trade between two or more Members and use the Third Party Order to initiate the execution process for a cross order. Each leg of the Third Party Order must specify the intended counterparties and do not interact with the Order book. Trades stay in the committed book until the end of the day unless matched or deleted.		Each leg of the trade must be approved by the relevant counterparties (same price, same quantity), otherwise the trades will not matched. Once all legs are approved, trades in the Third Party Order are confirmed and sent to clearing. Legs of the Third Party Orders not matched by the end of the trading session are automatically deleted.

10. Appendix B – Controls

10.1. Price and Quantity Controls

Product		Order book price control		Block Trade price control for Standard series[4]		Order book quantity control		Block trade quantity control		Trade Reporting[5]
		% from static control	% from dynamic control	Min quantity for outside spread	Allowable % from bid/ask	Max single order	Max combo order	Min size	Max size	Min quantity for Tailor-made (Flex) series
Futures	FTSE 100	+/- 5.0% for orders +/- 3.5% for trades	+/- 1.5%	250 lots	+/- 7.5%	500 lots	2500 lots	100 lots	5,000 lots	1 lot
	FTSE UK SLQ	+/- 5.0% for orders +/- 3.5% for trades	+/- 1.5%	250 lots	+/- 7.5%	500 lots	2500 lots	100 lots	5,000 lots	1 lot
	FTSE RIOB	+/- 5.0% for orders +/- 3.5% for trades	+/- 1.5%	1 lot	Within bid/ask spread	500 lots	2,500 lots	1 lot	5,000 lots	1 lot
	OBX	+/- 10% for orders	n/a	1 lot	Within bid/ask spread	50,000 lots	50,000 lots	1 lot	50,000 lots	1 lot
	OBOSX	+/-10% for orders	n/a	1 lot	Within bid/ask spread	50,000 lots	50,000 lots	1 lot	50,000 lots	1 lot
	BIST 30	+/- 5.0% for orders +/- 3.5% for trades	+/- 1.5%	150 lots	+/- 5.0%	5,000 lots	5,000 lots	150 lots	5,000 lots	1 lot
	Norwegian stocks	+/- 50% for orders	n/a	1 lot	Within bid/ask spread	50,000 lots	50,000 lots	1 lot	50,000 lots	1 lot
	IOB DRs	+/- 20.0% for orders +/- 7.5% for trades	+/- 3.5%	1 lot	Within bid/ask spread	10,000 lots	10,000 lots	1 lot	60,000 lots	1 lot
	IOB DR dividends	+/- 25.0% for orders +/- 10.0% for trades	+/- 5.0%	1 lot	Within bid/ask spread	10,000 lots	10,000 lots	1 lot	100,000 lots	1 lot

[4] Block trades in Tailor-made (Flex) series electronically submitted to LSEDM are subject to a post-trade theoretical price validation check by LSEDM Market Supervision.
[5] For Trade Reporting of Standard series, the Block Trade price and quantity controls apply.

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	Product	Order book price control		Block Trade price control for Standard series[4]		Order book quantity control		Block trade quantity control		Trade Reporting[5]
		% from static control	% from dynamic control	Min quantity for outside spread	Allowable % from bid/ask	Max single order	Max combo order	Min size	Max size	Min quantity for Tailor-made (Flex) series
Options	FTSE 100	See below	See below	250 lots	+/- 7.5%	500 lots	2500 lots	250 lot	5,000 lots	1 lot
	FTSE RIOB	See below	See below	1 lot	Within bid/ask spread	5,000 lots	10,000 lots	1 lot	10,000 lots	1 lot
	OBX	n/a	n/a	1 lot	Within bid/ask spread	50,000 lots	50,000 lots	1 lot	50,000 lots	1 lot
	BIST 30	See below	See below	150 lots	+/- 15.0%	5,000 lots	5,000 lots	150 lots	5,000 lots	1 lot
	IOB DRs	See below	See below	1 lot	Within bid/ask spread	10,000 lots	10,000 lots	1 lot	30,000 lots	1 lot
	UK stocks	n/a	n/a	1 lot	Within bid/ask spread	n/a	n/a	1 lot	30,000 lots	1 lot
	Norwegian stocks	n/a	n/a	1 lot	Within bid/ask spread	50,000 lots	50,000 lots	1 lot	50,000 lots	1 lot

10.2. Index options (Order book price control)

Strike Price	Trade vs. Settlement		Trade vs. Last
	Front month	All subsequent expiries	All Expiries
	(% Increase - % Decrease)	(% Increase - % Decrease)	(% Increase - % Decrease)
Over 8th OTM	900% - 80%	890% - 70%	450% - 50%
7th OTM	700% - 80%	690% - 70%	350% - 50%
5th and 6th OTM	500% - 80%	490% - 70%	200% - 50%
3rd and 4th OTM	250% - 80%	240% - 70%	100% - 50%
2nd OTM	200% - 80%	190% - 70%	70% - 50%
1st OTM	150% - 80%	140% - 70%	50% - 50%
ATM	**100% - 80%**	**90% - 70%**	**40% - 40%**
1st ITM	80% - 80%	70% - 70%	30% - 30%
2nd ITM	70% - 70%	60% - 60%	30% - 30%
3rd and 4th ITM	60% - 60%	50% - 50%	25% - 25%
5th and 6th ITM	40% - 40%	30% - 30%	15% - 15%
7th to 11th ITM	35% - 35%	25% - 25%	10% - 10%
12th ITM	25% - 25%	15% - 15%	5% - 5%

10.3. Stock options (Order book price control)

Strike Price	Trade vs. Settlement		Trade vs. Last
	Front month	All subsequent expiries	All Expiries
	(% Increase - % Decrease)	(% Increase - % Decrease)	(% Increase - % Decrease)
Over 8th OTM	900% - 80%	890% - 70%	450% - 50%
7th OTM	700% - 80%	690% - 70%	350% - 50%
5th and 6th OTM	500% - 80%	490% - 70%	200% - 50%
3rd and 4th OTM	400% - 80%	390% - 70%	100% - 50%
2nd OTM	350% - 80%	340% - 70%	70% - 50%
1st OTM	250% - 80%	240% - 70%	60% - 50%
ATM	**150% - 80%**	**140% - 70%**	**50% - 50%**
1st ITM	80% - 80%	70% - 70%	40% - 40%
2nd ITM	70% - 70%	60% - 60%	35% - 35%
3rd and 4th ITM	60% - 60%	50% - 50%	30% - 30%
5th and 6th ITM	50% - 50%	40% - 40%	20% - 20%
7th to 11th ITM	45% - 45%	35% - 35%	15% - 15%
Over 12th ITM	30% - 30%	20% - 20%	10% - 10%

11. Appendix C – Futures Contracts Value Ranges

Product	Value Ranges	Fast Market Value Ranges
Stock index future	1.5%	3%
Stock futures	5%	10%
Dividend futures	10%	20%

12. Appendix D – Strategies

LSEDM suggested convention for pre-defined strategies:

To assist front end developers in building a set of pre-defined strategies, LSEDM suggests the following convention (useful for developing front end systems). Please note, this is a simply an illustration of how to build a pre-defined list. Market participants can choose their own convention, using the FLEXCO message.

Strategy	Description (Long position)	LSEDM BTS convention (K = strike, T = maturity)
2 legged strategies		
1. Calendar Spread (IOB, UK and Turkish products)	Buy the near month future and sell the far month future	Buy F (T_1) Sell F (T_2), $T_1 < T_2$
2. Calendar Spread (Oslo products)	Sell the near month future and buy the far month future	Sell F (T_1) Buy F(T_2), $T_1 < T_2$
3. Call Calendar Spread	Buy the near month call and sell the far month call	Buy C (K, T_1) Sell C (K, T_2), $T_1 < T_2$
4. Put Calendar Spread	Buy the near month put and sell the far month put	Buy P (K, T_1) Sell P (K, T_2), $T_1 < T_2$
5. Diagonal Call Calendar Spread	Buy the near month call and sell the far month call at different strike prices	Buy C (K_1, T_1) Sell C (K_2, T_2), $T_1 < T_2$
6. Diagonal Put Calendar Spread	Buy the near month put and sell the far month put at different strike prices	Buy P (K_1, T_1) Sell P (K_2, T_2), $T_1 < T_2$
7. Straddle	Buy a call and a put at the same strike (and at the same expiry date)	Buy C (K, T) Buy P (K, T)
8. Collar	Buy a put at the lower strike and sell a call with a higher strike price (and at the same expiry date)	Buy P (K_1, T) Sell C (K_2, T), $K_1 < K_2$
9. Risk Reversal	Sell a put and buy a call at the same strike (and at the same expiry date)	Sell P (K, T) Buy C (K, T)
10. Call Spread	Buy call at lower strike price and sell call at higher strike price (and at the same expiry date)	Buy C (K_1, T) Sell C (K_2, T), $K_1 < K_2$
11. Put Spread	Buy put at higher strike price and sell put at lower strike price (and at the same expiry date)	Sell P (K_1, T) Buy P (K_2, T), $K_1 < K_2$
12. Ratio Call Spread	Buy a call at lower strike price and sell 2 calls at a higher strike price (and at the same expiry date)	Buy C (K_1, T) Sell 2 x C (K_2, T), $K_1 < K_2$
13. Ratio Put Spread	Sell a put at lower strike price and Buy 2 puts at a higher strike price (and at the same expiry date)	Sell 2 x P (K_1, T) Buy P (K_2, T), $K_1 < K_2$
3 legged strategies		
14. Straddle versus Short Call	Buy a call and a put at the same strike (and at the same expiry date), sell a call at higher strike	Buy C (K_1, T) Buy P (K_1, T) Sell C (K_2, T), $K_1 < K_2$
15. Straddle versus Short Put	Buy a call and a put at the same strike (and at the same expiry date), sell a put at a lower strike	Sell P (K_1, T) Buy C (K_2, T) Buy P (K_2, T), $K_1 < K_2$
16. Call Butterfly	Sell two calls at a middle strike, buy two calls each at lower and higher strike (all with same expiry date and with strikes equidistant)	Buy C (K_1, T) Buy C (K_3, T) Sell 2 x C (K_2, T), $K_1 < K_2 < K_3$
17. Put Butterfly	Sell two puts at a middle strike, buy two puts each at lower and higher strike (all with same expiry date and with strikes equidistant)	Buy P (K_1, T) Buy P (K_3, T) Sell 2 P (K_2, T), $K_1 < K_2 < K_3$

Strategy	Description (Long position)	LSEDM BTS convention (K = strike, T = maturity)
18. Call Ladder	Buy call, sell call at higher strike and sell call at equally higher strike (all with same expiry date and with strikes equidistant)	Buy C (K_1, T) Sell C (K_2, T) Sell C (K_3, T), $K_1 < K_2 < K_3$
19. Put Ladder	Sell put, sell put at higher strike and buy put at equally higher strike (all with same expiry date and with strikes equidistant)	Sell P (K_1, T) Sell P (K_2, T) Buy P (K_3, T), $K_1 < K_2 < K_3$
20. Call spread versus Short Put	Buy Call, sell Call at higher exercise price, sell Put at any (lowest) strike	Sell P (K_1, T) Buy C (K_2, T) Sell C (K_3, T), $K_1 < K_2 < K_3$
21. Put spread versus Short Call	Buy Put and sell Put at lower strike, sell Call at any (highest) strike	Sell P (K_1, T) Buy P (K_2, T) Sell C (K_3, T), $K_1 < K_2 < K_3$
4 legged strategies		
22. Straddle Calendar Spread	Selling a near term straddle while buying a longer term straddle at same strike prices	Sell C (T_1, K) Sell P (T_1, K) Buy C (T_2, K) Buy P (T_2, K), $T_1 < T_2$
23. Iron Butterfly	Buy a put and a call at a middle strike, sell a put at a lower strike and a call at a higher strike (all with same expiry date and with strikes equidistant)	Sell P (T, K_1) Buy P (T, K_2) Buy C (T, K_2) Sell C (T, K_3), $K_1 < K_2 < K_3$
24. Call Condor	Sell two calls at middle equidistant strikes, buy two calls each at lower and higher strike (all with same expiry date and with strikes equidistant)	Buy C (T, K_1) Sell C (T, K_2) Sell C (T, K_3) Buy C (T, K_4), $K_1 < K_2 < K_3 < K_4$
25. Put Condor	Sell two puts at middle equidistant strikes, buy two puts each at lower and higher strike (all with same expiry date and with strikes equidistant)	Buy P(T, K_1) Sell P (T, K_2) Sell P (T, K_3) Buy P (T, K_4), $K_1 < K_2 < K_3 < K_4$
26. Box	Buy call and sell put at same strike, buy put and sell call at higher strike (all with same expiry date)	Buy C (T, K_1) Sell P (T, K_1) Sell C (T, K_2) Buy P (T, K_2), $K_1 < K_2$
27. Diagonal Straddle Calendar Spread	Sell near term straddle and buy long term straddle at different strike prices.	Sell C (T_1, K_1) Sell P (T_1, K_1) Buy C (T_2, K_2) Buy P (T_2, K_2), $T_1 < T_2$
28. Iron Condor	Buy Put 1, Sell Put 2, Sell Call 1 and Buy Call 2 all in ascending order of strike price, all at the same maturity	Buy P (K_1, T) Sell P (K_2, T) Sell C (K_3, T) Buy C (K_4, T), $K_1 < K_2 < K_3 < K_4$

13. Appendix E – Bulk quoting protection: Default thresholds and user configurable ranges

13.1. IOB options (maximum volume protection only):

For the IOB options in the list, the default thresholds/ ranges for the **maximum volume protection counter** are below. (Note, the default values are the same as the minimum market making size obligations.)

Option	Default maximum volume threshold	Minimum configuration	Maximum configuration
Gazprom	1,000	Equal to minimum market making obligation	NA
Lukoil	150		
Norilsk Nickel	500		
Novatek	50		
Rosneft	1,000		
Sberbank	650		
Surgutneftegaz	800		
Uralkali	100		
VTB Bank	2,500		
RIOB Index	30		

For all other protection counters, the values are the same as for all instruments other than Norwegian products.

13.2. Norwegian index, options and futures:

For all Norwegian products, the following default thresholds/ ranges are used:

Protection type	Default threshold	Minimum configuration	Maximum configuration
Time Interval	60 seconds	NA	1 hour
Trade count (of Min Lot size)	5 (10)	3 (5)	NA (NA)
Volume count	500	100	NA
Value count	9,999,999	10,000	NA
Delta volume count	9,999,999	100	NA
Delta value count	9,999,999	10,000	NA

13.3. All other instruments:

For all other instruments listed on LSEDM, the following default thresholds/ ranges are used:

Protection type	Default threshold	Minimum configuration	Maximum configuration
Time Interval	60 seconds	NA	1 hour
Trade count (of Min Lot size)	99 (Equal to minimum market maker obligation)	3 (Equal to minimum market making obligation)	NA (NA)
Volume count	10,000	Equal to minimum market making obligation	NA
Value count	99,999,999	1,000	NA
Delta volume count	99,999,999	100	NA
Delta value count	99,999,999	10,000	NA